

DIGITAL WATERMARKING APPARATUS AND METHODS**Abstract of the Disclosure**

The present invention relates to various digital watermarking methods and systems. In one embodiment, a handheld device displays a digitally watermarked ticket image at an event center. At the event center, a watermark decoder extracts the watermark to determine authorized entry. In another embodiment, a plurality of microlenses can provide a polarized luminance pattern on a display. The pattern corresponds to (or conveys) a unique device identifier. In yet another embodiment, monetary objects are watermarked with payload information to signify currency denomination. The payload information, once extracted, is used to provide feedback regarding the currency denomination. An audio signal or Braille output can be provided as feedback. In still another embodiment, a document management system is based on watermarks. Embedded watermarks are used to track document history, determine document version information, and enhance overall security. In still another embodiment, an inventory system reads watermarks that have been directly applied to inventory items. Inventory management is greatly enhanced. Handheld computing devices are advantageously employed with these embodiments.